

Scaphandrena and *Elandrena*
(Hymenoptera: Andrenidae)

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Ribble (1974) synonymized *Scaphandrena* and *Elandrena*, a pair of the fifty or so subgenera of North American bees of the genus *Andrena*, the former having page precedence. His version of the reasons for describing them as separate subgenera in the first place is not entirely accurate: he states that "*Elandrena* has been distinguished from *Scaphandrena* by the lack of abdominal fasciae and the presence of dark pleural hairs." The original description of the two subgenera (Lanham 1949) specifically sequestered them only on the basis of the females; in the diagnostic key the males were not separated. The strategy of the 1949 classification of *Andrena* into subgenera was (p. 194) to base it primarily on the females, and assumed that some useful and biologically significant subgenera would often not be distinguishable in the males. In fact, the true situation may be obscured by requiring that the males be diagnosed at the subgeneric level. Ribble intergrades the two subgenera by shifting from male to female characters as required.

An important difference lies in the conspicuous white appressed hair bands at the apices of the abdominal terga of female *Scaphandrena*, absent in females of *Elandrena*. Impressions gained from field collecting suggest that this banding functions as mimicry for several species of halictine bees which are similarly banded and about the same size. These sting readily with a fiery sting even when a hand is brushed lightly against them in the net. *Andrena* is unable to penetrate the human skin with its sting.

The European *Truncandrena* probably are *Elandrena*; *A. (T.) ferrugineicrus* Dours, abundant in North Africa is much like *Elandrena*, more robust than our *Scaphandrena*, and without conspicuous light tergal hair bands. The vestiture is predominantly long and red, shading to dark brown and black in places. Since *Elandrena* in North America limited to the western half, it possibly had its origin in *Eurasia*, coming to America by way of the Beringian land bridge. *Scaphandrena* in the strict sense seems to be absent from the Old World, but is widespread in North America except the South East and the Great Plains. It has considerable morphological diversity, and includes a unique hybrid complex (Ribble 1973, Lanham 1974).

At one of the sites where *A. (Scaphandrena) montrosensis* Viereck and Cockerell was frequent (campground of the Colorado National Monument) it was in mid-May of 1985 a co-dominant on flowers of *Lepidium montanum* with *A. (Elandrena) bruneri* Viereck and Cockerell, a striking bee with all the hairs black, the midnight-blue integument coarsely punctate on the terga (black and dull in *montrosensis*), and more robust than *montrosensis*. It was interesting that the robust, red-haired, blue males of *bruneri* (first collected at this site on 5-6 May, 1987) had almost the same facial pattern of yellow cuticle as *montrosensis*, with the entirely yellow clypeus and large irregularly shaped parocular patches. It is possible that this

could provide a joint bi-specific recognition mark for the females for these two species, which are rather uncommon, so that pooling their resources would seem to be adaptive. On 6 May (mid-afternoon) at a small patch of *Cardaria* near the Monument Headquarters, kept alive in this dry area because it formed the edge of a sprinkled lawn, a small crowd of these species (5 male and 2 female *montrosensis* and a female of *bruneri* taken) was flying actively about over the flowers, with males hovering over the females and striking at them, knocking them to the ground and grappling. In this instance a lek (possibly bi-specific) was not well defined, but with the large dorsal field of vision provided by the compound eyes, the females might have been able to recognize males hovering above them as *Andrena* of interest by the wide yellow facial patches. Then final selection at closer range could be made on the basis of the color of the integument, presence or absence of dorsal light hair bands, or other stimuli, such as scent.

LITERATURE CITED

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